ABSTRACT

A swept turbomachinery blade for use in a cascade of such blades is disclosed. The blade (**12**) has an airfoil (**22**) uniquely swept so that an endwall shock (**64**) of limited radial extent and a passage shock (**66**) are coincident and a working medium (**48**) flowing through interblade passages (**50**) is subjected to a single coincident shock rather than the individual shocks. In one embodiment of the invention the forwardmost extremity of the airfoil defines an inner transition point (**40**) located at an inner transition radius r_t-inner. The sweep angle of the airfoil is nondecreasing with increasing radius from the inner transition radius to an outer transition radius $r_{t\text{-}outer}$, radially inward of the airfoil tip (**26**), and is nonincreasing with increasing radius between the outer transition radius and the airfoil tip.